续表 C.2.1

类型	EXPRESS 描述
桩施工类型（IfcPileConstructionEnum）	TYPE IfcPileConstructionEnum = ENUMERATION OF (CAST_IN_PLACE, COMPOSITE, PRECAST_CONCRETE, PREFAB_STEEL, USERDEFINED, NOTDEFINED); END_TYPE
桩类型（IfcPileTypeEnum）	TYPE IfcPileTypeEnum = ENUMERATION OF (BORED, DRIVEN, JETGROUTING, COHESION, FRICTION, SUPPORT, USERDEFINED, NOTDEFINED); END_TYPE
钢筋类型（IfcReinforcingBarTypeEnum）	TYPE IfcReinforcingBarTypeEnum = ENUMERATION OF (ANCHORING, EDGE, LIGATURE, MAIN, PUNCHING, RING, SHEAR, STUD, USERDEFINED, NOTDEFINED); END_TYPE
钢筋网片类型（IfcReinforcingMeshTypeEnum）	TYPE IfcReinforcingMeshTypeEnum = ENUMERATION OF (USERDEFINED, NOTDEFINED); END_TYPE
表面特征类型（IfcSurfaceFeatureTypeEnum）	TYPE IfcSurfaceFeatureTypeEnum = ENUMERATION OF (MARK, TAG, TREATMENT, USERDEFINED, NOTDEFINED); END_TYPE
预应力锚具类型（IfcTendonAnchorTypeEnum）	TYPE IfcTendonAnchorTypeEnum = ENUMERATION OF (COUPLER, FIXED_END, TENSIONING_END, USERDEFINED, NOTDEFINED); END_TYPE
预应力筋产品类型（IfcTendonTypeEnum）	TYPE IfcTendonTypeEnum = ENUMERATION OF (BAR, COATED, STRAND, WIRE, USERDEFINED, NOTDEFINED); END_TYPE

续表 C. 2. 1

类型	EXPRESS 描述
切削类型 (IfcVoidingFeature TypeEnum)	TYPE IfcVoidingFeatureTypeEnum = ENUMERATION OF (CUTOUT, NOTCH, HOLE, MITER, CHAMFER, EDGE, USERDEFINED, NOTDEFINED); END_TYPE
钢筋形状参数 (IfcBending ParameterSelect)	TYPE IfcBendingParameterSelect = SELECT (IfcLengthMeasure, IfcPlaneAngleMeasure); END_TYPE

C. 2. 2 结构专业实体的 EXPRESS 描述应符合表 C. 2. 2 的规定。

表 C. 2. 2 结构专业实体的 EXPRESS 描述

实体	EXPRESS 描述
基础 (IfcFooting)	ENTITY IfcFooting SUBTYPE OF IfcBuildingElement; PredefinedType : OPTIONAL IfcFootingTypeEnum; WHERE CorrectPredefinedType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcFooting TypeEnum. USERDEFINED) OR ((PredefinedType = IfcFootingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTSDOMAIN. IFCFOOTINGTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)) ; END_ENTITY
基础类型 (IfcFootingType)	ENTITY IfcFootingType SUBTYPE OF IfcBuildingElementType; PredefinedType : IfcFootingTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcFootingTypeEnum. USERDEFINED) OR ((Predefined Type = IfcFootingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
桩基础 (IfcPile)	ENTITY IfcPile SUBTYPE OF IfcBuildingElement; PredefinedType : OPTIONAL IfcPileTypeEnum; ConstructionType : OPTIONAL IfcPileConstructionEnum; WHERE CorrectPredefinedType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcPile TypeEnum. USERDEFINED) OR ((PredefinedType = IfcPileTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTS DOMAIN. IFCPILETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
桩基础类型 (IfcPileType)	ENTITY IfcPileType SUBTYPE OF IfcBuildingElementType; PredefinedType : IfcPileTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcPileTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPileTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.2.2

实体	EXPRESS 描述
钢筋属性集 (IfcReinforcement DefinitionProperties)	ENTITY IfcReinforcementDefinitionProperties SUBTYPE OF IfcPreDefinedPropertySet; DefinitionType : OPTIONAL IfcLabel; ReinforcementSectionDefinitions : LIST [1:?] OF IfcSectionReinforcementProperties; END_ENTITY
钢筋 (IfcReinforcingBar)	ENTITY IfcReinforcingBar SUBTYPE OF IfcReinforcingElement; NominalDiameter : OPTIONAL IfcPositiveLengthMeasure; CrossSectionArea : OPTIONAL IfcAreaMeasure; BarLength : OPTIONAL IfcPositiveLengthMeasure; PredefinedType : OPTIONAL IfcReinforcingBarTypeEnum; BarSurface : OPTIONAL IfcReinforcingBarSurfaceEnum; WHERE CorrectPredefinedType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcReinforcingBar TypeEnum. USERDEFINED) OR ((PredefinedType = IfcReinforcingBarTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)) ; CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTS DOMAIN. IFCREINFORCINGBARTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
钢筋类型 (IfcReinforcingBarType)	ENTITY IfcReinforcingBarType SUBTYPE OF IfcReinforcingElementType; PredefinedType : IfcReinforcingBarTypeEnum; NominalDiameter : OPTIONAL IfcPositiveLengthMeasure; CrossSectionArea : OPTIONAL IfcAreaMeasure; BarLength : OPTIONAL IfcPositiveLengthMeasure; BarSurface : OPTIONAL IfcReinforcingBarSurfaceEnum; BendingShapeCode : OPTIONAL IfcLabel; BendingParameters : OPTIONAL LIST [1:?] OF IfcBendingParameterSelect; WHERE CorrectPredefinedType : (PredefinedType <> IfcReinforcingBarTypeEnum. USERDEFINED) OR ((PredefinedType = IfcReinforcingBarTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); BendingShapeCodeProvided : NOT EXISTS(BendingParameters) OR EXISTS(BendingShapeCode); END_ENTITY
钢筋元素 (IfcReinforcing Element)	ENTITY IfcReinforcingElement ABSTRACT SUPERTYPE OF(ONEOF(IfcReinforcingBar, IfcReinforcingMesh, IfcTendon, IfcTendon Anchor))SUBTYPE OF IfcElementComponent; SteelGrade : OPTIONAL IfcLabel; END_ENTITY
钢筋元素类型 (IfcReinforcing ElementType)	ENTITY IfcReinforcingElementType ABSTRACT SUPERTYPE OF(ONEOF(IfcReinforcingBarType, IfcReinforcingMeshType, IfcTendon AnchorType, IfcTendonType)) SUBTYPE OF IfcElementComponentType; END_ENTITY
钢筋网片 (IfcReinforcingMesh)	ENTITY IfcReinforcingMesh SUBTYPE OF IfcReinforcingElement; MeshLength : OPTIONAL IfcPositiveLengthMeasure; MeshWidth : OPTIONAL IfcPositiveLengthMeasure; LongitudinalBarNominalDiameter : OPTIONAL IfcPositiveLengthMeasure; TransverseBarNominalDiameter : OPTIONAL IfcPositiveLengthMeasure; LongitudinalBarCrossSectionArea : OPTIONAL IfcAreaMeasure; TransverseBarCrossSectionArea : OPTIONAL IfcAreaMeasure; LongitudinalBarSpacing : OPTIONAL IfcPositiveLengthMeasure; TransverseBarSpacing : OPTIONAL IfcPositiveLengthMeasure; PredefinedType : OPTIONAL IfcReinforcingMeshTypeEnum; WHERE CorrectPredefinedType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcReinforcingMesh TypeEnum. USERDEFINED) OR ((PredefinedType = IfcReinforcingMeshTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTS DOMAIN. IFCREINFORCINGMESHTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)) ; END_ENTITY

续表 C.2.2

实体	EXPRESS 描述
钢筋网片类型 (IfcReinforcing MeshType)	ENTITY IfcReinforcingMeshType SUBTYPE OF IfcReinforcingElementType; PredefinedType : IfcReinforcingMeshTypeEnum; MeshLength : OPTIONAL IfcPositiveLengthMeasure; MeshWidth : OPTIONAL IfcPositiveLengthMeasure; LongitudinalBarNominalDiameter : OPTIONAL IfcPositiveLengthMeasure; TransverseBarNominalDiameter : OPTIONAL IfcPositiveLengthMeasure; LongitudinalBarCrossSectionArea : OPTIONAL IfcAreaMeasure; TransverseBarCrossSectionArea : OPTIONAL IfcAreaMeasure; LongitudinalBarSpacing : OPTIONAL IfcPositiveLengthMeasure; TransverseBarSpacing : OPTIONAL IfcPositiveLengthMeasure; BendingShapeCode : OPTIONAL IfcLabel; BendingParameters : OPTIONAL LIST [1:?] OF IfcBendingParameterSelect; WHERE CorrectPredefinedType : (PredefinedType <> IfcReinforcingMeshTypeEnum. USERDEFINED) OR ((PredefinedType = IfcReinforcingMeshTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); BendingShapeCodeProvided : NOT EXISTS(BendingParameters) OR EXISTS(BendingShapeCode); END_ENTITY
构件表面修饰特征 (IfcSurfaceFeature)	ENTITY IfcSurfaceFeature SUBTYPE OF IfcFeatureElement; PredefinedType : OPTIONAL IfcSurfaceFeatureTypeEnum; WHERE HasObjectType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcSurface FeatureTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY
预应力筋 (IfcTendon)	ENTITY IfcTendon SUBTYPE OF IfcReinforcingElement; PredefinedType : OPTIONAL IfcTendonTypeEnum; NominalDiameter : OPTIONAL IfcPositiveLengthMeasure; CrossSectionArea : OPTIONAL IfcAreaMeasure; TensionForce : OPTIONAL IfcForceMeasure; PreStress : OPTIONAL IfcPressureMeasure; FrictionCoefficient : OPTIONAL IfcNormalisedRatioMeasure; AnchorageSlip : OPTIONAL IfcPositiveLengthMeasure; MinCurvatureRadius : OPTIONAL IfcPositiveLengthMeasure; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcTendon TypeEnum. USERDEFINED) OR ((PredefinedType = IfcTendonTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTS DOMAIN. IFCTENDONTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)) ; END_ENTITY
预应力锚具 (IfcTendonAnchor)	ENTITY IfcTendonAnchor SUBTYPE OF IfcReinforcingElement; PredefinedType : OPTIONAL IfcTendonAnchorTypeEnum; WHERE CorrectPredefinedType : NOT (EXISTS (PredefinedType)) OR (PredefinedType <> IfcTendonAnchor-TypeEnum. USERDEFINED) OR ((PredefinedType = IfcTendonAnchorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCSTRUCTURALELEMENTS DOMAIN. IFCTENDONANCHORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
预应力锚具类型 (IfcTendon AnchorType)	ENTITY IfcTendonAnchorType SUBTYPE OF IfcReinforcingElementType; PredefinedType : IfcTendonAnchorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcTendonAnchorTypeEnum. USERDEFINED) OR ((Predefinedtype = IfcTendonAnchorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY

续表 C.2.2

实体	EXPRESS 描述
预应力筋类型 (IfcTendonType)	ENTITY IfcTendonType SUBTYPE OF IfcReinforcingElementType; PredefinedType : IfcTendonTypeEnum; NominalDiameter : OPTIONAL IfcPositiveLengthMeasure; CrossSectionArea : OPTIONAL IfcAreaMeasure; SheethDiameter : OPTIONAL IfcPositiveLengthMeasure; WHERE CorrectPredefinedType : (PredefinedType <> IfcTendonTypeEnum. USERDEFINED) OR ((Predefined Type = IfcTendonTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
切削特征 (IfcVoidingFeature)	ENTITY IfcVoidingFeature SUBTYPE OF IfcFeatureElementSubtraction; PredefinedType : OPTIONAL IfcVoidingFeatureTypeEnum; WHERE HasObjectType : NOT EXISTS(PredefinedType) OR (PredefinedType <> IfcVoidingFeatureTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY

C.3 结构分析应用

C.3.1 结构分析类型的 EXPRESS 描述应符合表 C.3.1 的规定。

表 C.3.1 结构分析类型的 EXPRESS 描述

类型	EXPRESS 描述
作用来源类型 (IfcActionSource TypeEnum)	TYPE IfcActionSourceTypeEnum = ENUMERATION OF (DEAD_LOAD_G, COMPLETION_G1, LIVE_LOAD_Q, SNOW_S, WIND_W, PRESTRESSING_P, SETTLEMENT_U, TEMPERATURE_T, EARTHQUAKE_E, FIRE, IMPULSE, IMPACT, TRANSPORT, ERECTION, PROPPING, SYSTEM_IMPERFECTION, SHRINKAGE, CREEP, LACK_OF_FIT, BUOYANCY, ICE, CURRENT, WAVE, RAIN, BRAKES, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.3.1

类型	EXPRESS 描述
作用类型 (IfcActionTypeEnum)	TYPE IfcActionTypeEnum = ENUMERATION OF (PERMANENT_G, VARIABLE_Q, EXTRAORDINARY_A, USERDEFINED, NOTDEFINED); END_TYPE
分析模型类型 (IfcAnalysisModel TypeEnum)	TYPE IfcAnalysisModelTypeEnum = ENUMERATION OF (IN_PLANE_LOADING_2D, OUT_PLANE_LOADING_2D, LOADING_3D, USERDEFINED, NOTDEFINED); END_TYPE
结构分析理论类型 (IfcAnalysisTheory TypeEnum)	TYPE IfcAnalysisTheoryTypeEnum = ENUMERATION OF (FIRST_ORDER_THEORY, SECOND_ORDER_THEORY, THIRD_ORDER_THEORY, FULL_NONLINEAR_THEORY, USERDEFINED, NOTDEFINED); END_TYPE
荷载组类型 (IfcLoadGroup TypeEnum)	TYPE IfcLoadGroupTypeEnum = ENUMERATION OF (LOAD_GROUP, LOAD_CASE, LOAD_COMBINATION, USERDEFINED, NOTDEFINED); END_TYPE
投影长度类型 (IfcProjectedOr TrueLengthEnum)	TYPE IfcProjectedOrTrueLengthEnum = ENUMERATION OF (PROJECTED_LENGTH, TRUE_LENGTH); END_TYPE
结构曲线作用类型 (IfcStructuralCurve ActivityTypeEnum)	TYPE IfcStructuralCurveActivityTypeEnum = ENUMERATION OF (CONST, LINEAR, POLYGONAL, EQUIDISTANT, SINUS, PARABOLA, DISCRETE, USERDEFINED, NOTDEFINED); END_TYPE
线性结构构件类型 (IfcStructuralCurve MemberTypeEnum)	TYPE IfcStructuralCurveMemberTypeEnum = ENUMERATION OF (RIGID_JOINED_MEMBER, PIN_JOINED_MEMBER, CABLE, TENSION_MEMBER, COMPRESSION_MEMBER, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.3.1

类型	EXPRESS 描述
结构面作用类型（IfcStructuralSurfaceActivityTypeEnum）	TYPE IfcStructuralSurfaceActivityTypeEnum = ENUMERATION OF (CONST, BILINEAR, DISCRETE, ISOCONTOUR, USERDEFINED, NOTDEFINED); END_TYPE
结构面构件类型（IfcStructuralSurfaceMemberTypeEnum）	TYPE IfcStructuralSurfaceMemberTypeEnum = ENUMERATION OF (BENDING_ELEMENT, MEMBRANE_ELEMENT, SHELL, USERDEFINED, NOTDEFINED); END_TYPE
结构行为指定（IfcStructuralActivityAssignmentSelect）	TYPE IfcStructuralActivityAssignmentSelect = SELECT (IfcStructuralItem, IfcElement); END_TYPE

C.3.2 结构分析实体的 EXPRESS 描述应符合表 C.3.2 的规定。

表 C.3.2 结构分析实体的 EXPRESS 描述

实体	EXPRESS 描述
结构行为与结构间的关系（IfcRelConnectsStructuralActivity）	ENTITY IfcRelConnectsStructuralActivity SUBTYPE OF IfcRelConnects; RelatingElement : IfcStructuralActivityAssignmentSelect; RelatedStructuralActivity : IfcStructuralActivity; END_ENTITY
结构连接构件（IfcRelConnectsStructuralMember）	ENTITY IfcRelConnectsStructuralMember SUPERTYPE OF(IfcRelConnectsWithEccentricity) SUBTYPE OF IfcRelConnects; RelatingStructuralMember : IfcStructuralMember; RelatedStructuralConnection : IfcStructuralConnection; AppliedCondition : OPTIONAL IfcBoundaryCondition; AdditionalConditions : OPTIONAL IfcStructuralConnectionCondition; SupportedLength : OPTIONAL IfcLengthMeasure; ConditionCoordinateSystem : OPTIONAL IfcAxis2Placement3D; END_ENTITY
偏心连接关系（IfcRelConnectsWithEccentricity）	ENTITY IfcRelConnectsWithEccentricity SUBTYPE OF IfcRelConnectsStructuralMember; ConnectionConstraint : IfcConnectionGeometry; END_ENTITY
结构作用（IfcStructuralAction）	ENTITY IfcStructuralAction ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralCurveAction, IfcStructuralPointAction, IfcStructuralSurfaceAction)) SUBTYPE OF IfcStructuralActivity; DestabilizingLoad : OPTIONAL BOOLEAN; END_ENTITY
结构行为（IfcStructuralActivity）	ENTITY IfcStructuralActivity ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralAction, IfcStructuralReaction)) SUBTYPE OF IfcProduct; AppliedLoad : IfcStructuralLoad; GlobalOrLocal : IfcGlobalOrLocalEnum; INVERSE AssignedToStructuralItem : SET [0:1] OF IfcRelConnectsStructuralActivity FOR RelatedStructuralActivity; END_ENTITY

续表 C.3.2

实体	EXPRESS 描述
结构分析模型 (IfcStructural AnalysisModel)	ENTITY IfcStructuralAnalysisModel SUBTYPE OF IfcSystem; PredefinedType : IfcAnalysisModelTypeEnum; OrientationOf2DPlane : OPTIONAL IfcAxis2Placement3D; LoadedBy : OPTIONAL SET [1:?] OF IfcStructuralLoadGroup; HasResults : OPTIONAL SET [1:?] OF IfcStructuralResultGroup; SharedPlacement : OPTIONAL IfcObjectPlacement; WHERE HasObjectType : (PredefinedType <> IfcAnalysisModelTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY
结构连接 (IfcStructural Connection)	ENTITY IfcStructuralConnection ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralCurveConnection, IfcStructuralPointConnection, IfcStructuralSurfaceConnection)) SUBTYPE OF IfcStructuralItem; AppliedCondition : OPTIONAL IfcBoundaryCondition; INVERSE ConnectsStructuralMembers : SET [1:?] OF IfcRelConnectsStructuralMember FOR RelatedStructuralConnection; END_ENTITY
结构曲线作用 (IfcStructural CurveAction)	ENTITY IfcStructuralCurveAction SUPERTYPE OF(IfcStructuralLinearAction) SUBTYPE OF IfcStructuralAction; ProjectedOrTrue : OPTIONAL IfcProjectedOrTrueLengthEnum; PredefinedType : IfcStructuralCurveActivityTypeEnum; WHERE ProjectedIsGlobal : (NOT EXISTS (ProjectedOrTrue)) OR ((ProjectedOrTrue <> PROJECTED_LENGTH) OR (SELF\IfcStructuralActivity. GlobalOrLocal = GLOBAL_COORDS)); HasObjectType : (PredefinedType <> IfcStructuralCurveActivityTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); SuitablePredefinedType : PredefinedType <> IfcStructuralCurveActivityTypeEnum. EQUIDISTANT; END_ENTITY
结构曲线连接 (IfcStrueturalCurve Connection)	ENTITY IfcStructuralCurveConnection SUBTYPE OF IfcStructuralConnection; Axis : IfcDirection; END_ENTITY
线性结构构件 (IfcStructural CurveMember)	ENTITY IfcStructuralCurveMember SUPERTYPE OF(IfcStructuralCurveMemberVarying) SUBTYPE OF IfcStructuralMember; PredefinedType : IfcStructuralCurveMemberTypeEnum; Axis : IfcDirection; WHERE HasObjectType : (PredefinedType <> IfcStructuralCurveMemberTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY
变截面线性结构构件 (IfcStructuralCurve MemberVarying)	ENTITY IfcStructuralCurveMemberVarying SUBTYPE OF IfcStructuralCurveMember; END_ENTITY
结构曲线作用的响应 (IfcStructural CurveReaction)	ENTITY IfcStructuralCurveReaction SUBTYPE OF IfcStructuralReaction; PredefinedType : IfcStructuralCurveActivityTypeEnum; WHERE HasObjectType : (PredefinedType <> IfcStructuralCurveActivityTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); SuitablePredefinedType : (PredefinedType <> IfcStructuralCurveActivityTypeEnum. SINUS) AND (PredefinedType <> IfcStructuralCurveActivityTypeEnum. PARABOLA); END_ENTITY

续表 C.3.2

实体	EXPRESS 描述
结构项目 (IfcStructuralItem)	ENTITY IfcStructuralItem ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralConnection, IfcStructuralMember)) SUBTYPE OF IfcProduct; INVERSE AssignedStructuralActivity : SET OF IfcRelConnectsStructuralActivity FOR RelatingElement; END_ENTITY
结构线性作用 (IfcStructuralLinear Action)	ENTITY IfcStructuralLinearAction SUBTYPE OF IfcStructuralCurveAction; WHERE SuitableLoadType : SIZEOF(['IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADLINEAR FORCE','IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADTEMPERATURE'] * TYPEOF(SELF\IfcStructuralActivity. AppliedLoad)) = 1; ConstPredefinedType : SELF\IfcStructuralCurveAction. PredefinedType = IfcStructuralCurveActivity TypeEnum. CONST; END_ENTITY
结构荷载工况 (IfcStructural LoadCase)	ENTITY IfcStructuralLoadCase SUBTYPE OF IfcStructuralLoadGroup; SelfWeightCoefficients : OPTIONAL LIST [3:3] OF IfcRatioMeasure; WHERE IsLoadCasePredefinedType : SELF\IfcStructuralLoadGroup. PredefinedType = IfcLoadGroupType Enum. LOAD_CASE; END_ENTITY
结构荷载组 (IfcStructuralLoad Group)	ENTITY IfcStructuralLoadGroup SUPERTYPE OF(IfcStructuralLoadCase) SUBTYPE OF IfcGroup; PredefinedType : IfcLoadGroupTypeEnum; ActionType : IfcActionTypeEnum; ActionSource : IfcActionSourceTypeEnum; Coefficient : OPTIONAL IfcRatioMeasure; Purpose : OPTIONAL IfcLabel; INVERSE SourceOfResultGroup : SET [0:1] OF IfcStructuralResultGroup FOR ResultForLoadGroup; LoadGroupFor : SET OF IfcStructuralAnalysisModel FOR LoadedBy; WHERE HasObjectType : ((PredefinedType <> IfcLoadGroupTypeEnum. USERDEFINED) AND (ActionType <> IfcActionTypeEnum. USERDEFINED) AND (ActionSource <> IfcActionSource TypeEnum. USERDEFINED)) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY
结构构件 (IfcStructural Member)	ENTITY IfcStructuralMember ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralCurveMember, IfcStructuralSurfaceMember)) SUBTYPE OF IfcStructuralItem; INVERSE ConnectedBy : SET OF IfcRelConnectsStructuralMember FOR RelatingStructuralMember; END_ENTITY
结构的平面作用 (IfcStructural PlanarAction)	ENTITY IfcStructuralPlanarAction SUBTYPE OF IfcStructuralSurfaceAction; WHERE SuitableLoadType : SIZEOF(['IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADPL ANARFORCE', 'IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADTEMPERATURE'] * TYPEOF(SELF\IfcStructuralActivity. AppliedLoad)) = 1; ConstPredefinedType : SELF\IfcStructuralSurfaceAction. PredefinedType = IfcStructuralSurfaceActivity TypeEnum. CONST; END_ENTITY

续表 C.3.2

实体	EXPRESS 描述
结构的点作用 (IfcStructural PointAction)	ENTITY IfcStructuralPointAction SUBTYPE OF IfcStructuralAction; WHERE SuitableLoadType : SIZEOF(['IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADSINGLE FORCE','IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADSINGLEDISPLACEMENT'] * TYPEOF(SELF\IfcStructuralActivity. AppliedLoad)) = 1; END_ENTITY
结构的点连接 (IfcStructuralPoint Connection)	ENTITY IfcStructuralPointConnection SUBTYPE OF IfcStructuralConnection; ConditionCoordinateSystem : OPTIONAL IfcAxis2Placement3D; END_ENTITY
结构点作用的响应 (IfcStructuralPoint Reaction)	ENTITY IfcStructuralPointReaction SUBTYPE OF IfcStructuralReaction; WHERE SuitableLoadType : SIZEOF(['IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADSINGL EFORCE', 'IFCSTRUCTURALLOADRESOURCE. IFCSTRUCTURALLOADSINGLEDISPLACEMENT'] * TYPEOF(SELF\IfcStructuralActivity. AppliedLoad)) = 1; END_ENTITY
结构响应 (IfcStructural Reaction)	ENTITY IfcStructuralReaction ABSTRACT SUPERTYPE OF(ONEOF(IfcStructuralCurveReaction, IfcStructuralPointReaction, IfcStruc turalSurfaceReaction)) SUBTYPE OF IfcStructuralActivity; END_ENTITY
结构结果分组 (IfcStructural ResultGroup)	ENTITY IfcStructuralResultGroup SUBTYPE OF IfcGroup; TheoryType : IfcAnalysisTheoryTypeEnum; ResultForLoadGroup : OPTIONAL IfcStructuralLoadGroup; IsLinear : BOOLEAN; INVERSE ResultGroupFor : SET [0:1] OF IfcStructuralAnalysisModel FOR HasResults; WHERE HasObjectType : (TheoryType <> IfcAnalysisTheoryTypeEnum. USERDEFINED) OR EXISTS(SELF\ IfcObject. ObjectType); END_ENTITY
结构的面作用 (IfcStructural SurfaceAction)	ENTITY IfcStructuralSurfaceAction SUPERTYPE OF(IfcStructuralPlanarAction) SUBTYPE OF IfcStructuralAction; ProjectedOrTrue : OPTIONAL IfcProjectedOrTrueLengthEnum; PredefinedType : IfcStructuralSurfaceActivityTypeEnum; WHERE ProjectedIsGlobal : (NOT EXISTS (ProjectedOrTrue)) OR ((ProjectedOrTrue <> PROJECTED_ LENGTH) OR (SELF\IfcStructuralActivity. GlobalOrLocal = GLOBAL_COORDS)); HasObjectType : (PredefinedType <> IfcStructuralSurfaceActivityTypeEnum. USERDEFINED) OR EX ISTS(SELF\IfcObject. ObjectType); END_ENTITY
结构的面连接 (IfcStructuralSurface Connection)	ENTITY IfcStructuralSurfaceConnection SUBTYPE OF IfcStructuralConnection; END_ENTITY
结构的面构件 (IfcStructural SurfaceMember)	ENTITY IfcStructuralSurfaceMember SUPERTYPE OF(IfcStructuralSurfaceMemberVarying) SUBTYPE OF IfcStructuralMember; PredefinedType : IfcStructuralSurfaceMemberTypeEnum; Thickness : OPTIONAL IfcPositiveLengthMeasure; WHERE HasObjectType : (PredefinedType <> IfcStructuralSurfaceMemberTypeEnum. USERDEFINED) OR EXISTS(SELF\IfcObject. ObjectType); END_ENTITY

续表 C.3.2

实体	EXPRESS 描述
变厚度面构件（IfcStructuralSurfaceMemberVarying）	ENTITY IfcStructuralSurfaceMemberVarying SUBTYPE OF IfcStructuralSurfaceMember; END_ENTITY
结构面作用的响应（IfcStructuralSurfaceReaction）	ENTITY IfcStructuralSurfaceReaction SUBTYPE OF IfcStructuralReaction; PredefinedType : IfcStructuralSurfaceActivityTypeEnum; WHERE HasPredefinedType : (PredefinedType <> IfcStructuralSurfaceActivityTypeEnum.USERDEFINED) OR EXISTS(SELF\IfcObject.ObjectType); END_ENTITY

C.4 管道与消防应用

C.4.1 管道与消防类型的 EXPRESS 描述应符合表 C.4.1 的规定。

表 C.4.1 管道与消防类型的 EXPRESS 描述

类型	EXPRESS 描述
灭火末端设备类型枚举（IfcFireSuppressionTerminalTypeEnum）	TYPE IfcFireSuppressionTerminalTypeEnum = ENUMERATION OF (BREECHINGINLET, FIREHYDRANT, HOSEREEL, SPRINKLER, SPRINKLERDEFLECTOR, USERDEFINED, NOTDEFINED); END_TYPE
污水隔离设备类型枚举（IfcInterceptorTypeEnum）	TYPE IfcInterceptorTypeEnum = ENUMERATION OF (CYCLONIC, GREASE, OIL, PETROL, USERDEFINED, NOTDEFINED); END_TYPE
卫生器具类型枚举（IfcSanitaryTerminalTypeEnum）	TYPE IfcSanitaryTerminalTypeEnum = ENUMERATION OF (BATH, BIDET, CISTERN, SHOWER, SINK, SANITARYFOUNTAIN, TOILETPAN, URINAL, WASHHANDBASIN, WCSEAT, USERDEFINED, NOTDEFINED); END_TYPE
立管末端设备类型枚举（IfcStackTerminalTypeEnum）	TYPE IfcStackTerminalTypeEnum = ENUMERATION OF (BIRDCAGE, COWL, RAINWATERHOPPER, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.4.1

类型	EXPRESS 描述
排水末端设备类型枚举（IfcWasteTerminalTypeEnum）	TYPE IfcWasteTerminalTypeEnum = ENUMERATION OF (FLOORTRAP, FLOORWASTE, GULLYSUMP, GULLYTRAP, ROOFDRAIN, WASTEDISPOSALUNIT, WASTETRAP, USERDEFINED, NOTDEFINED); END_TYPE

C.4.2 管道与消防实体的 EXPRESS 描述应符合表 C.4.2 的规定。

表 C.4.2 管道与消防实体的 EXPRESS 描述

实体	EXPRESS 描述
灭火末端设备（IfcFireSuppressionTerminal）	ENTITY IfcFireSuppressionTerminal SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcFireSuppressionTerminalTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcFireSuppressionTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcFireSuppressionTerminalTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCPLUMBINGFIREPROTECTIONDOMAIN. IFCFIRESUPPRESSIONTERMINALTYPE ' IN TYPEOF (SELF \ IfcObject. IsTypedBy [1] . RelatingType)); END_ENTITY
灭火末端设备类型（IfcFireSuppressionTerminalType）	ENTITY IfcFireSuppressionTerminalType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcFireSuppressionTerminalTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcFireSuppressionTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcFireSuppressionTerminalTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
污水隔离设备（IfcInterceptor）	ENTITY IfcInterceptor SUBTYPE OF IfcFlowTreatmentDevice; PredefinedType : OPTIONAL IfcInterceptorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcInterceptorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcInterceptorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCPLUMBINGFIREPROTECTIONDOMAIN. IFCINTERCEPTORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
污水隔离设备类型（IfcInterceptorType）	ENTITY IfcInterceptorType SUBTYPE OF IfcFlowTreatmentDeviceType; PredefinedType : IfcInterceptorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcInterceptorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcInterceptorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType));END_ENTITY

续表 C.4.2

实体	EXPRESS 描述
卫生器具 (IfcSanitaryTerminal)	ENTITY IfcSanitaryTerminal SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcSanitaryTerminalTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcSanitaryTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcSanitaryTerminalTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCPLUMBINGFIREPROTECTIONDOMAIN. IFCSANITARYTERMINALTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
卫生器具类型 (IfcSanitary TerminalType)	ENTITY IfcSanitaryTerminalType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcSanitaryTerminalTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcSanitaryTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcSanitaryTerminalTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
立管末端设备 (IfcStackTerminal)	ENTITY IfcStackTerminal SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcStackTerminalTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcStackTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcStackTerminalTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCPLUMBINGFIREPROTECTIONDOMAIN. IFCSTACKTERMINALTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
立管末端设备类型 (IfcStackTerminalType)	ENTITY IfcStackTerminalType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcStackTerminalTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcStackTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcStackTerminalTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
排水末端设备 (IfcWasteTerminal)	ENTITY IfcWasteTerminal SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcWasteTerminalTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcWasteTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcWasteTerminalTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCPLUMBINGFIREPROTECTIONDOMAIN. IFCWASTETERMINALTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
排水末端设备类型 (IfcWasteTerminal Type)	ENTITY IfcWasteTerminalType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcWasteTerminalTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcWasteTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcWasteTerminalTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

C.5 暖通空调应用

C.5.1 暖通空调类型的 EXPRESS 描述应符合表 C.5.1 的规定。

表 C.5.1 暖通空调类型的 EXPRESS 描述

类型	EXPRESS 描述
送风末端设备类型（IfcAirTerminalBoxTypeEnum）	TYPE IfcAirTerminalBoxTypeEnum = ENUMERATION OF (CONSTANTFLOW, VARIABLEFLOWPRESSUREDEPENDANT, VARIABLEFLOWPRESSUREINDEPENDANT, USERDEFINED, NOTDEFINED); END_TYPE
空调出风口类型（IfcAirTerminalTypeEnum）	TYPE IfcAirTerminalTypeEnum = ENUMERATION OF (DIFFUSER, GRILLE, LOUVRE, REGISTER, USERDEFINED, NOTDEFINED); END_TYPE
空气-空气热能回收设备类型（IfcAirToAirHeatRecoveryTypeEnum）	TYPE IfcAirToAirHeatRecoveryTypeEnum = ENUMERATION OF (FIXEDPLATECOUNTERFLOWEXCHANGER, FIXEDPLATECROSSFLOWEXCHANGER, FIXEDPLATEPARALLELFLOWEXCHANGER, ROTARYWHEEL, RUNAROUNDCOILLOOP, HEATPIPE, TWINTOWERENTHALPYRECOVERYLOOPS, THERMOSIPHONSEALEDTUBEHEATEXCHANGERS, THERMOSIPHONCOILTYPEHEATEXCHANGERS, USERDEFINED, NOTDEFINED); END_TYPE
锅炉类型（IfcBoilerTypeEnum）	TYPE IfcBoilerTypeEnum = ENUMERATION OF (WATER, STEAM, USERDEFINED, NOTDEFINED); END_TYPE
燃烧器类型（IfcBurnerTypeEnum）	TYPE IfcBurnerTypeEnum = ENUMERATION OF (USERDEFINED, NOTDEFINED); END_TYPE
冷水机组类型（IfcChillerTypeEnum）	TYPE IfcChillerTypeEnum = ENUMERATION OF (AIRCOOLED, WATERCOOLED, HEATRECOVERY, USERDEFINED, NOTDEFINED); END_TYPE
盘管类型（IfcCoilTypeEnum）	TYPE IfcCoilTypeEnum = ENUMERATION OF (DXCOOLINGCOIL, ELECTRICHEATINGCOIL, GASHEATINGCOIL, HYDRONICCOIL, STEAMHEATINGCOIL, WATERCOOLINGCOIL, WATERHEATINGCOIL, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.5.1

类型	EXPRESS 描述
压缩机类型（IfcCompressorTypeEnum）	TYPE IfcCompressorTypeEnum = ENUMERATION OF (DYNAMIC, RECIPROCATING, ROTARY, SCROLL, TROCHOIDAL, SINGLESTAGE, BOOSTER, OPENTYPE, HERMETIC, SEMIHERMETIC, WELDEDSHELLHERMETIC, ROLLINGPISTON, ROTARYVANE, SINGLESCREW, TWINSCREW, USERDEFINED, NOTDEFINED); END_TYPE
冷凝器类型（IfcCondenserTypeEnum）	TYPE IfcCondenserTypeEnum = ENUMERATION OF (AIRCOOLED, EVAPORATIVECOOLED, WATERCOOLED, WATERCOOLEDBRAZEDPLATE, WATERCOOLEDSHELLCOIL, WATERCOOLEDSHELLTUBE, WATERCOOLEDTUBEINTUBE, USERDEFINED, NOTDEFINED); END_TYPE
冷梁类型（IfcCooledBeamTypeEnum）	TYPE IfcCooledBeamTypeEnum = ENUMERATION OF (ACTIVE, PASSIVE, USERDEFINED, NOTDEFINED); END_TYPE
冷却塔类型（IfcCoolingTowerTypeEnum）	TYPE IfcCoolingTowerTypeEnum = ENUMERATION OF (NATURALDRAFT, MECHANICALINDUCEDDRAFT, MECHANICALFORCEDDRAFT, USERDEFINED, NOTDEFINED); END_TYPE
风阀类型（IfcDamperTypeEnum）	TYPE IfcDamperTypeEnum = ENUMERATION OF (BACKDRAFTDAMPER, BALANCINGDAMPER, BLASTDAMPER, CONTROLDAMPER, FIREDAMPER, FIRESMOKEDAMPER, FUMEHOODEXHAUST, GRAVITYDAMPER, GRAVITYRELIEFDAMPER, RELIEFDAMPER, SMOKEDAMPER, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.5.1

类型	EXPRESS 描述
风管配件类型（IfcDuctFittingTypeEnum）	TYPE IfcDuctFittingTypeEnum = ENUMERATION OF (BEND, CONNECTOR, ENTRY, EXIT, JUNCTION, OBSTRUCTION, TRANSITION, USERDEFINED, NOTDEFINED); END_TYPE
风管段类型（IfcDuctSegmentTypeEnum）	TYPE IfcDuctSegmentTypeEnum = ENUMERATION OF (RIGIDSEGMENT, FLEXIBLESEGMENT, USERDEFINED, NOTDEFINED); END_TYPE
风管消声器类型（IfcDuctSilencerTypeEnum）	TYPE IfcDuctSilencerTypeEnum = ENUMERATION OF (FLATOVAL, RECTANGULAR, ROUND, USERDEFINED, NOTDEFINED); END_TYPE
发动机类型（IfcEngineTypeEnum）	TYPE IfcEngineTypeEnum = ENUMERATION OF (EXTERNALCOMBUSTION, INTERNALCOMBUSTION, USERDEFINED, NOTDEFINED); END_TYPE
蒸发冷却器类型（IfcEvaporativeCoolerTypeEnum）	TYPE IfcEvaporativeCoolerTypeEnum = ENUMERATION OF (DIRECTEVAPORATIVERANDOMMEDIAAIRCOOLER, DIRECTEVAPORATIVERIGIDMEDIAAIRCOOLER, DIRECTEVAPORATIVESLINGERSPACKAGEDAIRCOOLER, DIRECTEVAPORATIVEPACKAGEDROTARYAIRCOOLER, DIRECTEVAPORATIVEAIRWASHER, INDIRECTEVAPORATIVEPACKAGEAIRCOOLER, INDIRECTEVAPORATIVEWETCOIL, INDIRECTEVAPORATIVECOOLINGTOWERORCOILCOOLER, INDIRECTDIRECTCOMBINATION, USERDEFINED, NOTDEFINED); END_TYPE
蒸发器类型（IfcEvaporatorTypeEnum）	TYPE IfcEvaporatorTypeEnum = ENUMERATION OF (DIRECTEXPANSION, DIRECTEXPANSIONSHELLANDTUBE, DIRECTEXPANSIONTUBEINTUBE, DIRECTEXPANSIONBRAZEDPLATE, FLOODEDSHELLANDTUBE, SHELLANDCOIL, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.5.1

类型	EXPRESS 描述
风机类型 (IfcFanTypeEnum)	TYPE IfcFanTypeEnum = ENUMERATION OF (CENTRIFUGALFORWARDCURVED, CENTRIFUGALRADIAL, CENTRIFUGALBACKWARDINCLINEDCURVED, CENTRIFUGALAIRFOIL, TUBEAXIAL, VANEAXIAL, PROPELLORAXIAL, USERDEFINED, NOTDEFINED); END_TYPE
过滤器类型 (IfcFilterTypeEnum)	TYPE IfcFilterTypeEnum = ENUMERATION OF (AIRPARTICLEFILTER, COMPRESSEDAIRFILTER, ODORFILTER, OILFILTER, STRAINER, WATERFILTER, USERDEFINED, NOTDEFINED); END_TYPE
流量计类型 (IfcFlowMeter TypeEnum)	TYPE IfcFlowMeterTypeEnum = ENUMERATION OF (ENERGYMETER, GASMETER, OILMETER, WATERMETER, USERDEFINED, NOTDEFINED); END_TYPE
换热器类型 (IfcHeatExchanger TypeEnum)	TYPE IfcHeatExchangerTypeEnum = ENUMERATION OF (PLATE, SHELLANDTUBE, USERDEFINED, NOTDEFINED); END_TYPE
加湿器类型 (IfcHumidifier TypeEnum)	TYPE IfcHumidifierTypeEnum = ENUMERATION OF (STEAMINJECTION, ADIABATICAIRWASHER, ADIABATICPAN, ADIABATICWETTEDELEMENT, ADIABATICATOMIZING, ADIABATICULTRASONIC, ADIABATICRIGIDMEDIA, ADIABATICCOMPRESSEDAIRNOZZLE, ASSISTEDELECTRIC, ASSISTEDNATURALGAS, ASSISTEDPROPANE, ASSISTEDBUTANE, ASSISTEDSTEAM, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.5.1

类型	EXPRESS 描述
医用设备类型（IfcMedicalDeviceTypeEnum）	TYPE IfcMedicalDeviceTypeEnum = ENUMERATION OF (AIRSTATION, FEEDAIRUNIT, OXYGENGENERATOR, OXYGENPLANT, VACUUMSTATION, USERDEFINED, NOTDEFINED); END_TYPE
管道配件类型（IfcPipeFittingTypeEnum）	TYPE IfcPipeFittingTypeEnum = ENUMERATION OF (BEND, CONNECTOR, ENTRY, EXIT, JUNCTION, OBSTRUCTION, TRANSITION, USERDEFINED, NOTDEFINED); END_TYPE
水管段类型（IfcPipeSegmentTypeEnum）	TYPE IfcPipeSegmentTypeEnum = ENUMERATION OF (CULVERT, FLEXIBLESEGMENT, RIGIDSEGMENT, GUTTER, SPOOL, USERDEFINED, NOTDEFINED); END_TYPE
泵类型（IfcPumpTypeEnum）	TYPE IfcPumpTypeEnum = ENUMERATION OF (CIRCULATOR, ENDSUCTION, SPLITCASE, SUBMERSIBLEPUMP, SUMPPUMP, VERTICALINLINE, VERTICALTURBINE, USERDEFINED, NOTDEFINED); END_TYPE
房间加热器类型（IfcSpaceHeaterTypeEnum）	TYPE IfcSpaceHeaterTypeEnum = ENUMERATION OF (CONVECTOR, RADIATOR, USERDEFINED, NOTDEFINED); END_TYPE
水箱类型（IfcTankTypeEnum）	TYPE IfcTankTypeEnum = ENUMERATION OF (BASIN, BREAKPRESSURE, EXPANSION, FEEDANDEXPANSION, PRESSUREVESSEL, STORAGE, VESSEL, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.5.1

类型	EXPRESS 描述
管束类型 (IfcTubeBundle TypeEnum)	TYPE IfcTubeBundleTypeEnum = ENUMERATION OF (FINNED, USERDEFINED, NOTDEFINED); END_TYPE
一体式设备类型 (IfcUnitaryEquipment TypeEnum)	TYPE IfcUnitaryEquipmentTypeEnum = ENUMERATION OF (AIRHANDLER, AIRCONDITIONINGUNIT, DEHUMIDIFIER, SPLITSYSTEM, ROOFTOPUNIT, USERDEFINED, NOTDEFINED); END_TYPE
阀门类型 (IfcValveTypeEnum)	TYPE IfcValveTypeEnum = ENUMERATION OF (AIRRELEASE, ANTIVACUUM, CHANGEOVER, CHECK, COMMISSIONING, DIVERTING, DRAWOFFCOCK, DOUBLECHECK, DOUBLEREGULATING, FAUCET, FLUSHING, GASCOCK, GASTAP, ISOLATING, MIXING, PRESSUREREDUCING, PRESSURERELIEF, REGULATING, SAFETYCUTOFF, STEAMTRAP, STOPCOCK, USERDEFINED, NOTDEFINED); END_TYPE
隔振器类型 (IfcVibrationIsolator TypeEnum)	TYPE IfcVibrationIsolatorTypeEnum = ENUMERATION OF (COMPRESSION, SPRING, USERDEFINED, NOTDEFINED); END_TYPE

C.5.2 暖通空调实体的 EXPRESS 描述应符合表 C.5.2 的规定。

表 C.5.2 暖通空调实体的 EXPRESS 描述

实体	EXPRESS 描述
风道末端设备 (IfcAirTerminal)	ENTITY IfcAirTerminal SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcAirTerminalTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcAirTerminalType Enum. USERDEFINED) OR ((PredefinedType = IfcAirTerminalTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCAIRTERMINALTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
送风末端设备 (IfcAirTerminalBox)	ENTITY IfcAirTerminalBox SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcAirTerminalBoxTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcAirTerminalBoxTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAirTerminalBoxTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCAIRTERMINALBOXTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
送风末端设备类型 (IfcAirTerminal BoxType)	ENTITY IfcAirTerminalBoxType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcAirTerminalBoxTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcAirTerminalBoxTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAirTerminalBoxTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
空调出风口类型 (IfcAirTerminalType)	ENTITY IfcAirTerminalType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcAirTerminalTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcAirTerminalTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAirTerminalTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
空气-空气能量 回收设备 (IfcAirToAirHeat Recovery)	ENTITY IfcAirToAirHeatRecovery SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcAirToAirHeatRecoveryTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcAirToAirHeat RecoveryTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAirToAirHeatRecovery TypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCAIRTOAIRHEATRECOVERYTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
空气-空气能量 回收设备类型 (IfcAirToAirHeat RecoveryType)	ENTITY IfcAirToAirHeatRecoveryType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcAirToAirHeatRecoveryTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcAirToAirHeatRecoveryTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAirToAirHeatRecoveryTypeEnum. USERDEFINED) AND EXISTS(SELF\Ifc ElementType. ElementType)); END_ENTITY
锅炉 (IfcBoiler)	ENTITY IfcBoiler SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcBoilerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcBoiler TypeEnum. USERDEFINED) OR ((PredefinedType = IfcBoilerTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCBOILERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
锅炉类型 (IfcBoilerType)	ENTITY IfcBoilerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcBoilerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcBoilerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcBoilerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
燃烧器 (IfcBurner)	ENTITY IfcBurner SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcBurnerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcBurnerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcBurnerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCBURNERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
燃烧器类型 (IfcBurnerType)	ENTITY IfcBurnerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcBurnerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcBurnerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcBurnerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
冷水机 (IfcChiller)	ENTITY IfcChiller SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcChillerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcChillerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcChillerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCHILLERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
冷水机类型 (IfcChillerType)	ENTITY IfcChillerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcChillerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcChillerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcChillerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
盘管 (IfcCoil)	ENTITY IfcCoil SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcCoilTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCoilTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCoilTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCOILTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
盘管类型 (IfcCoilType)	ENTITY IfcCoilType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcCoilTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCoilTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCoilTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
压缩机 (IfcCompressor)	ENTITY IfcCompressor SUBTYPE OF IfcFlowMovingDevice; PredefinedType : OPTIONAL IfcCompressorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCompressorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCompressorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCOMPRESSORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
压缩机类型 (IfcCompressorType)	ENTITY IfcCompressorType SUBTYPE OF IfcFlowMovingDeviceType; PredefinedType : IfcCompressorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCompressorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCompressorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
冷凝器 (IfcCondenser)	ENTITY IfcCondenser SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcCondenserTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCondenserType Enum. USERDEFINED) OR ((PredefinedType = IfcCondenserTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCONDENSERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
冷凝器类型 (IfcCondenserType)	ENTITY IfcCondenserType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcCondenserTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCondenserTypeEnum. USERDEFINED) OR ((Predefined Type = IfcCondenserTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
冷梁 (IfcCooledBeam)	ENTITY IfcCooledBeam SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcCooledBeamTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCooledBeamTypeEn um. USERDEFINED) OR ((PredefinedType = IfcCooledBeamTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCOOLEDBEAMTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
冷梁类型 (IfcCooledBeamType)	ENTITY IfcCooledBeamType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcCooledBeamTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCooledBeamTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCooledBeamTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
冷却塔 (IfcCoolingTower)	ENTITY IfcCoolingTower SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcCoolingTowerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCoolingTower TypeEnum. USERDEFINED) OR ((PredefinedType = IfcCoolingTowerTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCCOOLINGTOWER TYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
冷却塔类型 (IfcCooling TowerType)	ENTITY IfcCoolingTowerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcCoolingTowerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCoolingTowerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCoolingTowerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
风阀 (IfcDamper)	ENTITY IfcDamper SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcDamperTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcDamperType Enum. USERDEFINED) OR ((PredefinedType = IfcDamperTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCDAMPERTYPE' IN TY PEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
风阀类型 (IfcDamperType)	ENTITY IfcDamperType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcDamperTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcDamperTypeEnum. USERDEFINED) OR ((Predefined Type = IfcDamperTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
风管配件 (IfcDuctFitting)	ENTITY IfcDuctFitting SUBTYPE OF IfcFlowFitting; PredefinedType : OPTIONAL IfcDuctFittingTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcDuctFittingType Enum. USERDEFINED) OR ((PredefinedType = IfcDuctFittingTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCDUCTFITTINGTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
风管配件类型 (IfcDuctFittingType)	ENTITY IfcDuctFittingType SUBTYPE OF IfcFlowFittingType; PredefinedType : IfcDuctFittingTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcDuctFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcDuctFittingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
风管段 (IfcDuctSegment)	ENTITY IfcDuctSegment SUBTYPE OF IfcFlowSegment; PredefinedType : OPTIONAL IfcDuctSegmentTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcDuctSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcDuctSegmentTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCDUCTSEGMENTTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
风管段类型 (IfcDuctSegmentType)	ENTITY IfcDuctSegmentType SUBTYPE OF IfcFlowSegmentType; PredefinedType : IfcDuctSegmentTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcDuctSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcDuctSegmentTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
风管消声器 (IfcDuctSilencer)	ENTITY IfcDuctSilencer SUBTYPE OF IfcFlowTreatmentDevice; PredefinedType : OPTIONAL IfcDuctSilencerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcDuctSilencerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcDuctSilencerTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCDUCTSILENCERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
风管消声器类型 (IfcDuctSilencerType)	ENTITY IfcDuctSilencerType SUBTYPE OF IfcFlowTreatmentDeviceType; PredefinedType : IfcDuctSilencerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcDuctSilencerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcDuctSilencerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
发动机 (IfcEngine)	ENTITY IfcEngine SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcEngineTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcEngineTypeEnum. USERDEFINED) OR ((PredefinedType = IfcEngineTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCENGINETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
发动机类型 (IfcEngineType)	ENTITY IfcEngineType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcEngineTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcEngineTypeEnum. USERDEFINED) OR ((PredefinedType = IfcEngineTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
蒸发冷却器 (IfcEvaporative Cooler)	ENTITY IfcEvaporativeCooler SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcEvaporativeCoolerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcEvaporativeCooler TypeEnum. USERDEFINED) OR ((PredefinedType = IfcEvaporativeCoolerTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCEVAPORATIVECOOLERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
蒸发冷却器类型 (IfcEvaporative CoolerType)	ENTITY IfcEvaporativeCoolerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcEvaporativeCoolerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcEvaporativeCoolerTypeEnum. USERDEFINED) OR ((PredefinedType = IfcEvaporativeCoolerTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElement Type. ElementType)); END_ENTITY
蒸发器 (IfcEvaporator)	ENTITY IfcEvaporator SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcEvaporatorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcEvaporatorTypeE-num. USERDEFINED) OR ((PredefinedType = IfcEvaporatorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCEVAPORATORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
蒸发器类型 (IfcEvaporatorType)	ENTITY IfcEvaporatorType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcEvaporatorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcEvaporatorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcEvaporatorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
风机 (IfcFan)	ENTITY IfcFan SUBTYPE OF IfcFlowMovingDevice; PredefinedType : OPTIONAL IfcFanTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcFan TypeEnum. USERDEFINED) OR ((PredefinedType = IfcFanTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCFANTYPE' IN TYPEOF (SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
风机类型 (IfcFanType)	ENTITY IfcFanType SUBTYPE OF IfcFlowMovingDeviceType; PredefinedType : IfcFanTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcFanTypeEnum. USERDEFINED) OR ((PredefinedType = IfcFanTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
过滤器 (IfcFilter)	ENTITY IfcFilter SUBTYPE OF IfcFlowTreatmentDevice; PredefinedType : OPTIONAL IfcFilterTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcFilterTypeEnum.USERDEFINED) OR ((PredefinedType = IfcFilterTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCFILTERTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
过滤器类型 (IfcFilterType)	ENTITY IfcFilterType SUBTYPE OF IfcFlowTreatmentDeviceType; PredefinedType : IfcFilterTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcFilterTypeEnum.USERDEFINED) OR ((PredefinedType = IfcFilterTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
流量计 (IfcFlowMeter)	ENTITY IfcFlowMeter SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcFlowMeterTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcFlowMeterTypeEnum.USERDEFINED) OR ((PredefinedType = IfcFlowMeterTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCFLOWMETERTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
流量计类型 (IfcFlowMeterType)	ENTITY IfcFlowMeterType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcFlowMeterTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcFlowMeterTypeEnum.USERDEFINED) OR ((PredefinedType = IfcFlowMeterTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
换热器 (IfcHeatExchanger)	ENTITY IfcHeatExchanger SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcHeatExchangerTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcHeatExchangerTypeEnum.USERDEFINED) OR ((PredefinedType = IfcHeatExchangerTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCHEATEXCHANGERTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
换热器类型 (IfcHeatExchangerType)	ENTITY IfcHeatExchangerType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcHeatExchangerTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcHeatExchangerTypeEnum.USERDEFINED) OR ((PredefinedType = IfcHeatExchangerTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
加湿器 (IfcHumidifier)	ENTITY IfcHumidifier SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcHumidifierTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcHumidifierTypeEnum. USERDEFINED) OR ((PredefinedType = IfcHumidifierTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCHUMIDIFIERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
加湿器类型 (IfcHumidifierType)	ENTITY IfcHumidifierType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcHumidifierTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcHumidifierTypeEnum. USERDEFINED) OR ((PredefinedType = IfcHumidifierTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
医用设备 (IfcMedicalDevice)	ENTITY IfcMedicalDevice SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcMedicalDeviceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcMedicalDeviceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcMedicalDeviceTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCMEDICALDEVICETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
医用设备类型 (IfcMedicalDeviceType)	ENTITY IfcMedicalDeviceType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcMedicalDeviceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcMedicalDeviceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcMedicalDeviceTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
水管配件 (IfcPipeFitting)	ENTITY IfcPipeFitting SUBTYPE OF IfcFlowFitting; PredefinedType : OPTIONAL IfcPipeFittingTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcPipeFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPipeFittingTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCPIPEFITTINGTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
水管配件类型 (IfcPipeFittingType)	ENTITY IfcPipeFittingType SUBTYPE OF IfcFlowFittingType; PredefinedType : IfcPipeFittingTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcPipeFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPipeFittingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
水管段 (IfcPipeSegment)	ENTITY IfcPipeSegment SUBTYPE OF IfcFlowSegment; PredefinedType : OPTIONAL IfcPipeSegmentTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcPipeSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPipeSegmentTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCPIPESEGMENTTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
水管段类型 (IfcPipeSegmentType)	ENTITY IfcPipeSegmentType SUBTYPE OF IfcFlowSegmentType; PredefinedType : IfcPipeSegmentTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcPipeSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPipeSegmentTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
泵 (IfcPump)	ENTITY IfcPump SUBTYPE OF IfcFlowMovingDevice; PredefinedType : OPTIONAL IfcPumpTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcPumpTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPumpTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCPUMPTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
泵类型 (IfcPumpType)	ENTITY IfcPumpType SUBTYPE OF IfcFlowMovingDeviceType; PredefinedType : IfcPumpTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcPumpTypeEnum. USERDEFINED) OR ((PredefinedType = IfcPumpTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
房间加热器 (IfcSpaceHeater)	ENTITY IfcSpaceHeater SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcSpaceHeaterTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcSpaceHeaterTypeEnum. USERDEFINED) OR ((PredefinedType = IfcSpaceHeaterTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCSPACEHEATERTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
房间加热器类型 (IfcSpaceHeaterType)	ENTITY IfcSpaceHeaterType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcSpaceHeaterTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcSpaceHeaterTypeEnum. USERDEFINED) OR ((PredefinedType = IfcSpaceHeaterTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
水箱 (IfcTank)	ENTITY IfcTank SUBTYPE OF IfcFlowStorageDevice; PredefinedType : OPTIONAL IfcTankTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcTankTypeEnum.USERDEFINED) OR ((PredefinedType = IfcTankTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCTANKTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
水箱类型 (IfcTankType)	ENTITY IfcTankType SUBTYPE OF IfcFlowStorageDeviceType; PredefinedType : IfcTankTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcTankTypeEnum.USERDEFINED) OR ((PredefinedType = IfcTankTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
管束 (IfcTubeBundle)	ENTITY IfcTubeBundle SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcTubeBundleTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcTubeBundleTypeEnum.USERDEFINED) OR ((PredefinedType = IfcTubeBundleTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCTUBEBUNDLETYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
管束类型 (IfcTubeBundleType)	ENTITY IfcTubeBundleType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcTubeBundleTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcTubeBundleTypeEnum.USERDEFINED) OR ((PredefinedType = IfcTubeBundleTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
一体式设备 (IfcUnitaryEquipment)	ENTITY IfcUnitaryEquipment SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcUnitaryEquipmentTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcUnitaryEquipmentTypeEnum.USERDEFINED) OR ((PredefinedType = IfcUnitaryEquipmentTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN.IFCUNITARYEQUIPMENTTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
一体式设备类型 (IfcUnitaryEquipmentType)	ENTITY IfcUnitaryEquipmentType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcUnitaryEquipmentTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcUnitaryEquipmentTypeEnum.USERDEFINED) OR ((PredefinedType = IfcUnitaryEquipmentTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY

续表 C.5.2

实体	EXPRESS 描述
阀门 (IfcValve)	ENTITY IfcValve SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcValveTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcValveTypeEnum. USERDEFINED) OR ((PredefinedType = IfcValveTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCVALVETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
阀门类型 (IfcValveType)	ENTITY IfcValveType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcValveTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcValveTypeEnum. USERDEFINED) OR ((PredefinedType = IfcValveTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
隔振器 (IfcVibrationIsolator)	ENTITY IfcVibrationIsolator SUBTYPE OF IfcElementComponent; PredefinedType : OPTIONAL IfcVibrationIsolatorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcVibrationIsolatorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcVibrationIsolatorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCHVACDOMAIN. IFCVIBRATIONISOLATORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
隔振器类型 (IfcVibrationIsolator Type)	ENTITY IfcVibrationIsolatorType SUBTYPE OF IfcElementComponentType; PredefinedType : IfcVibrationIsolatorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcVibrationIsolatorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcVibrationIsolatorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

C.6 电气专业应用

C.6.1 电气专业类型的 EXPRESS 描述应符合表 C.6.1 的规定。

表 C.6.1 电气专业类型的 EXPRESS 描述

类型	EXPRESS 描述
视听设备类型枚举 (IfcAudioVisual Appliance TypeEnum)	TYPE IfcAudioVisualApplianceTypeEnum = ENUMERATION OF (AMPLIFIER, CAMERA, DISPLAY, MICROPHONE, PLAYER, PROJECTOR, RECEIVER, SPEAKER, SWITCHER, TELEPHONE, TUNER, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.6.1

类型	EXPRESS 描述
电缆支架配件类型枚举（IfcCableCarrierFittingTypeEnum）	TYPE IfcCableCarrierFittingTypeEnum = ENUMERATION OF (BEND, CROSS, REDUCER, TEE, USERDEFINED, NOTDEFINED); END_TYPE
电缆支架段类型枚举（IfcCableCarrierSegmentTypeEnum）	TYPE IfcCableCarrierSegmentTypeEnum = ENUMERATION OF (CABLELADDERSEGMENT, CABLETRAYSEGMENT, CABLETRUNKINGSEGMENT, CONDUITSEGMENT, USERDEFINED, NOTDEFINED); END_TYPE
电缆配件类型枚举（IfcCableFittingTypeEnum）	TYPE IfcCableFittingTypeEnum = ENUMERATION OF (CONNECTOR, ENTRY, EXIT, JUNCTION, TRANSITION, USERDEFINED, NOTDEFINED); END_TYPE
电缆段类型枚举（IfcCableSegmentTypeEnum）	TYPE IfcCableSegmentTypeEnum = ENUMERATION OF (BUSBARSEGMENT, CABLESEGMENT, CONDUCTORSEGMENT, CORESEGMENT, USERDEFINED, NOTDEFINED); END_TYPE
通信设备类型枚举（IfcCommunicationsApplianceTypeEnum）	TYPE IfcCommunicationsApplianceTypeEnum = ENUMERATION OF (ANTENNA, COMPUTER, FAX, GATEWAY, MODEM, NETWORKAPPLIANCE, NETWORKBRIDGE, NETWORKHUB, PRINTER, REPEATER, ROUTER, SCANNER, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.6.1

类型	EXPRESS 描述
电器类型枚举（IfcElectricApplianceTypeEnum）	TYPE IfcElectricApplianceTypeEnum = ENUMERATION OF (DISHWASHER, ELECTRICCOOKER, FREESTANDINGELECTRICHEATER, FREESTANDINGFAN, FREESTANDINGWATERHEATER, FREESTANDINGWATERCOOLER, FREEZER, FRIDGE_FREEZER, HANDDRYER, KITCHENMACHINE, MICROWAVE, PHOTOCOPIER, REFRIGERATOR, TUMBLEDRYER, VENDINGMACHINE, WASHINGMACHINE, USERDEFINED, NOTDEFINED); END_TYPE
配电板类型枚举（IfcElectricDistributionBoardTypeEnum）	TYPE IfcElectricDistributionBoardTypeEnum = ENUMERATION OF (CONSUMERUNIT, DISTRIBUTIONBOARD, MOTORCONTROLCENTRE, SWITCHBOARD, USERDEFINED, NOTDEFINED); END_TYPE
电力存储设备类型（IfcElectricFlowStorageDeviceTypeEnum）	TYPE IfcElectricFlowStorageDeviceTypeEnum = ENUMERATION OF (BATTERY, CAPACITORBANK, HARMONICFILTER, INDUCTORBANK, UPS, USERDEFINED, NOTDEFINED); END_TYPE
发电机类型（IfcElectricGeneratorTypeEnum）	TYPE IfcElectricGeneratorTypeEnum = ENUMERATION OF (CHP, ENGINEGENERATOR, STANDALONE, USERDEFINED, NOTDEFINED); END_TYPE
电动机类型（IfcElectricMotorTypeEnum）	TYPE IfcElectricMotorTypeEnum = ENUMERATION OF (DC, INDUCTION, POLYPHASE, RELUCTANCESYNCHRONOUS, SYNCHRONOUS, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.6.1

类型	EXPRESS 描述
电气时间控制器类型（IfcElectricTimeControlTypeEnum）	TYPE IfcElectricTimeControlTypeEnum = ENUMERATION OF (TIMECLOCK, TIMEDELAY, RELAY, USERDEFINED, NOTDEFINED); END_TYPE
接线盒类型（IfcJunctionBoxTypeEnum）	TYPE IfcJunctionBoxTypeEnum = ENUMERATION OF (DATA, POWER, USERDEFINED, NOTDEFINED); END_TYPE
光源类型（IfcLampTypeEnum）	TYPE IfcLampTypeEnum = ENUMERATION OF (COMPACTFLUORESCENT, FLUORESCENT, HALOGEN, HIGHPRESSUREMERCURY, HIGHPRESSURESODIUM, LED, METALHALIDE, OLED, TUNGSTENFILAMENT, USERDEFINED, NOTDEFINED); END_TYPE
灯具类型（IfcLightFixtureTypeEnum）	TYPE IfcLightFixtureTypeEnum = ENUMERATION OF (POINTSOURCE, DIRECTIONSOURCE, SECURITYLIGHTING, USERDEFINED, NOTDEFINED); END_TYPE
电机连接类型（IfcMotorConnectionTypeEnum）	TYPE IfcMotorConnectionTypeEnum = ENUMERATION OF (BELTDRIVE, COUPLING, DIRECTDRIVE, USERDEFINED, NOTDEFINED); END_TYPE
插座类型（IfcOutletTypeEnum）	TYPE IfcOutletTypeEnum = ENUMERATION OF (AUDIOVISUALOUTLET, COMMUNICATIONSOUTLET, POWEROUTLET, DATAOUTLET, TELEPHONEOUTLET, USERDEFINED, NOTDEFINED); END_TYPE
保护装置跳闸单元类型（IfcProtectiveDeviceTrippingUnitTypeEnum）	TYPE IfcProtectiveDeviceTrippingUnitTypeEnum = ENUMERATION OF (ELECTRONIC, ELECTROMAGNETIC, RESIDUALCURRENT, THERMAL, USERDEFINED, NOTDEFINED); END_TYPE

续表 C.6.1

类型	EXPRESS 描述
保护装置类型（IfcProtectiveDeviceTypeEnum）	TYPE IfcProtectiveDeviceTypeEnum = ENUMERATION OF (CIRCUITBREAKER, EARTHLEAKAGECIRCUITBREAKER, EARTHINGSWITCH, FUSEDISCONNECTOR, RESIDUALCURRENTCIRCUITBREAKER, RESIDUALCURRENTSWITCH, VARISTOR, USERDEFINED, NOTDEFINED); END_TYPE
太阳能设备类型（IfcSolarDeviceTypeEnum）	TYPE IfcSolarDeviceTypeEnum = ENUMERATION OF (SOLARCOLLECTOR, SOLARPANEL, USERDEFINED, NOTDEFINED); END_TYPE
开关类型（IfcSwitchingDeviceTypeEnum）	TYPE IfcSwitchingDeviceTypeEnum = ENUMERATION OF (CONTACTOR, DIMMERSWITCH, EMERGENCYSTOP, KEYPAD, MOMENTARYSWITCH, SELECTORSWITCH, STARTER, SWITCHIDISCONNECTOR, TOGGLESWITCH, USERDEFINED, NOTDEFINED); END_TYPE
变压器类型（IfcTransformerTypeEnum）	TYPE IfcTransformerTypeEnum = ENUMERATION OF (CURRENT, FREQUENCY, INVERTER, RECTIFIER, VOLTAGE, USERDEFINED, NOTDEFINED); END_TYPE

C.6.2 电气专业实体的 EXPRESS 描述应符合表 C.6.2 的规定。

表 C.6.2 电气专业实体的 EXPRESS 描述

实体	EXPRESS 描述
视听设备（IfcAudioVisualAppliance）	ENTITY IfcAudioVisualAppliance SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcAudioVisualApplianceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcAudioVisualApplianceTypeEnum.USERDEFINED) OR ((PredefinedType = IfcAudioVisualApplianceTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCAUDIOVISUALAPPLIANCETYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
视听设备类型 (IfcAudioVisual ApplianceType)	ENTITY IfcAudioVisualApplianceType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcAudioVisualApplianceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcAudioVisualApplianceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcAudioVisualApplianceTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电缆支架配件 (IfcCableCarrierFitting)	ENTITY IfcCableCarrierFitting SUBTYPE OF IfcFlowFitting; PredefinedType : OPTIONAL IfcCableCarrierFittingTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCableCarrierFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableCarrierFittingTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCCABLECARRIERFITTINGTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电缆支架配件类型 (IfcCableCarrier FittingType)	ENTITY IfcCableCarrierFittingType SUBTYPE OF IfcFlowFittingType; PredefinedType : IfcCableCarrierFittingTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCableCarrierFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableCarrierFittingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电缆支架段 (IfcCableCarrier Segment)	ENTITY IfcCableCarrierSegment SUBTYPE OF IfcFlowSegment; PredefinedType : OPTIONAL IfcCableCarrierSegmentTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCableCarrierSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableCarrierSegmentTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCCABLECARRIERSEGMENTTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电缆支架段类型 (IfcCableCarrier SegmentType)	ENTITY IfcCableCarrierSegmentType SUBTYPE OF IfcFlowSegmentType; PredefinedType : IfcCableCarrierSegmentTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCableCarrierSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableCarrierSegmentTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电缆配件 (IfcCableFitting)	ENTITY IfcCableFitting SUBTYPE OF IfcFlowFitting; PredefinedType : OPTIONAL IfcCableFittingTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCableFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableFittingTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCCABLEFITTINGTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
电缆配件类型 (IfcCableFittingType)	ENTITY IfcCableFittingType SUBTYPE OF IfcFlowFittingType; PredefinedType : IfcCableFittingTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCableFittingTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableFittingTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电缆段 (IfcCableSegment)	ENTITY IfcCableSegment SUBTYPE OF IfcFlowSegment; PredefinedType : OPTIONAL IfcCableSegmentTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCableSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableSegmentTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCCABLESEGMENTTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电缆段类型 (IfcCableSegmentType)	ENTITY IfcCableSegmentType SUBTYPE OF IfcFlowSegmentType; PredefinedType : IfcCableSegmentTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCableSegmentTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCableSegmentTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
通信设备 (IfcCommunications Appliance)	ENTITY IfcCommunicationsAppliance SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcCommunicationsApplianceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcCommunications ApplianceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCommunicationsApplianceTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCCOMMUNICATIONSAPPLIANCETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
通信设备类型 (IfcCommunications ApplianceType)	ENTITY IfcCommunicationsApplianceType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcCommunicationsApplianceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcCommunicationsApplianceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcCommunicationsApplianceTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电气设备 (IfcElectricAppliance)	ENTITY IfcElectricAppliance SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcElectricApplianceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricAppliance TypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricApplianceTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCELECTRICAPPLIANCETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
电气设备类型 (IfcElectricAppliance Type)	ENTITY IfcElectricApplianceType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcElectricApplianceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcElectricApplianceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricApplianceTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
配电板 (IfcElectricDistribution Board)	ENTITY IfcElectricDistributionBoard SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcElectricDistributionBoardTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricDistributionBoardTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricDistributionBoardTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCELECTRICDISTRIBUTIONBOARDTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
配电板类型 (IfcElectricDistribution BoardType)	ENTITY IfcElectricDistributionBoardType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcElectricDistributionBoardTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcElectricDistributionBoardTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricDistributionBoardTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电力存储装置 (IfcElectricFlow StorageDevice)	ENTITY IfcElectricFlowStorageDevice SUBTYPE OF IfcFlowStorageDevice; PredefinedType : OPTIONAL IfcElectricFlowStorageDeviceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricFlowStorageDeviceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricFlowStorageDeviceTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCELECTRICFLOWSTORAGEDEVICETYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电力存储装置类型 (IfcElectricFlowStorage DeviceType)	ENTITY IfcElectricFlowStorageDeviceType SUBTYPE OF IfcFlowStorageDeviceType; PredefinedType : IfcElectricFlowStorageDeviceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcElectricFlowStorageDeviceTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricFlowStorageDeviceTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
发电机 (IfcElectricGenerator)	ENTITY IfcElectricGenerator SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcElectricGeneratorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricGeneratorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricGeneratorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCELECTRICGENERATORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
发电机类型 (IfcElectricGeneratorType)	ENTITY IfcElectricGeneratorType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcElectricGeneratorTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcElectricGeneratorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricGeneratorTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
电动马达 (IfcElectricMotor)	ENTITY IfcElectricMotor SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcElectricMotorTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricMotorTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricMotorTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCELECTRICMOTORTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电气时间控制器 (IfcElectricTimeControl)	ENTITY IfcElectricTimeControl SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcElectricTimeControlTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcElectricTimeControlTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricTimeControlTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCELECTRICTIMECONTROLTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
电气时间控制器类型 (IfcElectricTimeControlType)	ENTITY IfcElectricTimeControlType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcElectricTimeControlTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcElectricTimeControlTypeEnum. USERDEFINED) OR ((PredefinedType = IfcElectricTimeControlTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY
接线盒 (IfcJunctionBox)	ENTITY IfcJunctionBox SUBTYPE OF IfcFlowFitting; PredefinedType : OPTIONAL IfcJunctionBoxTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcJunctionBoxTypeEnum. USERDEFINED) OR ((PredefinedType = IfcJunctionBoxTypeEnum. USERDEFINED) AND EXISTS (SELF\IfcObject. ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN. IFCJUNCTIONBOXTYPE' IN TYPEOF(SELF\IfcObject. IsTypedBy[1]. RelatingType)); END_ENTITY
接线盒类型 (IfcJunctionBoxType)	ENTITY IfcJunctionBoxType SUBTYPE OF IfcFlowFittingType; PredefinedType : IfcJunctionBoxTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcJunctionBoxTypeEnum. USERDEFINED) OR ((PredefinedType = IfcJunctionBoxTypeEnum. USERDEFINED) AND EXISTS(SELF\IfcElementType. ElementType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
光源 (IfcLamp)	ENTITY IfcLamp SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcLampTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcLampTypeEnum.USERDEFINED) OR ((PredefinedType = IfcLampTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCLAMPTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
光源类型 (IfcLampType)	ENTITY IfcLampType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcLampTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcLampTypeEnum.USERDEFINED) OR ((PredefinedType = IfcLampTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
灯具 (IfcLightFixture)	ENTITY IfcLightFixture SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcLightFixtureTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcLightFixtureTypeEnum.USERDEFINED) OR ((PredefinedType = IfcLightFixtureTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCLIGHTFIXTURETYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
灯具类型 (IfcLightFixtureType)	ENTITY IfcLightFixtureType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcLightFixtureTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcLightFixtureTypeEnum.USERDEFINED) OR ((PredefinedType = IfcLightFixtureTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
电机连接 (IfcMotorConnection)	ENTITY IfcMotorConnection SUBTYPE OF IfcEnergyConversionDevice; PredefinedType : OPTIONAL IfcMotorConnectionTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcMotorConnectionTypeEnum.USERDEFINED) OR ((PredefinedType = IfcMotorConnectionTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCMOTORCONNECTIONTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
电机连接类型 (IfcMotorConnectionType)	ENTITY IfcMotorConnectionType SUBTYPE OF IfcEnergyConversionDeviceType; PredefinedType : IfcMotorConnectionTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcMotorConnectionTypeEnum.USERDEFINED) OR ((PredefinedType = IfcMotorConnectionTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY

续表 C.6.2

实体	EXPRESS 描述
插座 (IfcOutlet)	ENTITY IfcOutlet SUBTYPE OF IfcFlowTerminal; PredefinedType : OPTIONAL IfcOutletTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcOutletTypeEnum.USERDEFINED) OR ((PredefinedType = IfcOutletTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCOUTLETTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
插座类型 (IfcOutletType)	ENTITY IfcOutletType SUBTYPE OF IfcFlowTerminalType; PredefinedType : IfcOutletTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcOutletTypeEnum.USERDEFINED) OR ((PredefinedType = IfcOutletTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
保护装置 (IfcProtectiveDevice)	ENTITY IfcProtectiveDevice SUBTYPE OF IfcFlowController; PredefinedType : OPTIONAL IfcProtectiveDeviceTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcProtectiveDeviceTypeEnum.USERDEFINED) OR ((PredefinedType = IfcProtectiveDeviceTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCPROTECTIVEDEVICETYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
保护装置跳闸单元 (IfcProtectiveDeviceTrippingUnit)	ENTITY IfcProtectiveDeviceTrippingUnit SUBTYPE OF IfcDistributionControlElement; PredefinedType : OPTIONAL IfcProtectiveDeviceTrippingUnitTypeEnum; WHERE CorrectPredefinedType : NOT(EXISTS(PredefinedType)) OR (PredefinedType <> IfcProtectiveDeviceTrippingUnitTypeEnum.USERDEFINED) OR ((PredefinedType = IfcProtectiveDeviceTrippingUnitTypeEnum.USERDEFINED) AND EXISTS (SELF\IfcObject.ObjectType)); CorrectTypeAssigned : (SIZEOF(IsTypedBy) = 0) OR ('IFCELECTRICALDOMAIN.IFCPROTECTIVEDEVICETRIPPINGUNITTYPE' IN TYPEOF(SELF\IfcObject.IsTypedBy[1].RelatingType)); END_ENTITY
跳闸式保护 装置类型 (IfcProtectiveDeviceTrippingUnitType)	ENTITY IfcProtectiveDeviceTrippingUnitType SUBTYPE OF IfcDistributionControlElementType; PredefinedType : IfcProtectiveDeviceTrippingUnitTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcProtectiveDeviceTrippingUnitTypeEnum.USERDEFINED) OR ((PredefinedType = IfcProtectiveDeviceTrippingUnitTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY
保护装置类型 (IfcProtectiveDeviceType)	ENTITY IfcProtectiveDeviceType SUBTYPE OF IfcFlowControllerType; PredefinedType : IfcProtectiveDeviceTypeEnum; WHERE CorrectPredefinedType : (PredefinedType <> IfcProtectiveDeviceTypeEnum.USERDEFINED) OR ((PredefinedType = IfcProtectiveDeviceTypeEnum.USERDEFINED) AND EXISTS(SELF\IfcElementType.ElementType)); END_ENTITY